Claims

[c1] 1.A method for screening a plurality of polypeptides comprising:
linking each of the plurality of polypeptides with a nucleic acid tag to obtain tagged polypeptides;
hybridizing the tagged polypeptides with an oligonucleotide probe array to immobilize the tagged polypeptides on the array, wherein the oligonucleotide probe array has at least one probe for each of the nucleic acid tag; and
screening the polypeptides for an activity.

[c2] 2.The method of Claim 1 wherein the linking comprises
attaching oligonucleotide tags to a plurality of mRNAs; and
translating the mRNAs to produce the plurality of polypeptides, wherein the translation is performed under the condition that the resulting peptides are attached to the mRNA.

[c3] 3.The method of Claim 2 wherein each of the mRNAs is attached with a different tag.

[c4] 4.The method of Claim 3 wherein the screening comprises determining the binding affinity of the immobilized polypeptides with a ligand.

[c5] 5.The method of Claim 4 wherein the ligand is a drug candidate.

[c6] 6.The method of Claims 2, 3, 4, 5 or 6 wherein the oligonucleotide probe array has at least 400 different oligonucleotide probes per cm^2.

[c7] 7.The method of Claims 2, 3, 4, 5 or 6 wherein the oligonucleotide probe array has at least 1000 different oligonucleotide probes per cm^2.

[c8] 8.The method of Claims 2, 3, 4, 5 or 6 wherein the oligonucleotide probe array has at least 10000 different oligonucleotide probes per cm^2.

[c9] 9.The method of Claims 2, 3, 4, 5 or 6 wherein the plurality of polypeptides comprise at least 50 polypeptides.

[c10] 10.The method of Claims 2, 3, 4, 5 or 6 wherein the plurality of polypeptides comprise at least 100 polypeptides.

[c11] 11.The method of Claims 2, 3, 4, 5 or 6 wherein the plurality of polypeptides comprise at least 1000 polypeptides.

[c12] 12.A method for screening a plurality of polypeptides comprising:
attaching oligonucleotide tags to a plurality of mRNAs;
hybridizing the plurality of mRNAs to an oligonucleotide array; wherein the oligonucleotide array has at least one probe for each of the oligonucleotide tags;
translating the mRNAs to produce the plurality of polypeptides, wherein the translation is performed under the condition that the resulting peptides are attached to the mRNA; and
screening the polypeptides for an activity.

[c13] 13.The method of Claim 12 wherein each of the mRNAs is attached with a different tag.

[c14] 14.The method of Claim 13 wherein the screening comprises determining the binding affinity of the immobilized polypeptides with a ligand.

[c15] 15.The method of Claim 14 wherein the ligand is a drug candidate.

[c16] 16.The method of Claims 13, 14, or 15 wherein the oligonucleotide probe array has at least 400 different oligonucleotide probes per cm^2.

[c17] 17.The method of Claims 13, 14, or 15 wherein the oligonucleotide probe array has at least 1000 different oligonucleotide probes per cm^2.

[c18] 18.The method of Claims 13, 14, or 15 wherein the oligonucleotide probe array has at least 10000 different oligonucleotide probes per cm^2.

[c19] 19.The method of Claims 13, 14, or 15 wherein the plurality of polypeptides comprise at least 50 polypeptides.

[c20] 20.The method of Claims 13, 14, or 15 wherein the plurality of polypeptides comprise at least 100 polypeptides.

[c21] 21. The method of Claims 13, 14, or 15 wherein the plurality of polypeptides comprise at least 1000 polypeptides.